GENERAL NOTES

1. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND DETAILS. THESE MECHANICAL DRAWINGS ARE DIAGRAMMATIC ONLY AND ARE NOT TO BE SCALED. THE CONTRACTOR SHALL VISIT THE JOB SITE BEFORE WORK BEGINS TO VERIFY ALL DIMENSIONS. NOTIFY THE ENGINEER OF ANY CONFLICTS.
2. COORDINATE DUCT ROUTING AND EQUIPMENT LOCATIONS WITH PLUMBING AND ELECTRICAL INSTALLATIONS AND WITH BUILDING STRUCTURAL MEMBERS. OFFSET DUCTS AND SHIFT EQUIPMENT AS REQUIRED TO AVOID CONFLICTS.
3. COORDINATE LOCATIONS OF CEILING REGISTERS AND DIFFUSERS WITH LIGHTING LAYOUT AND REFLECTED CEILING PLAN.
4. DUCT SIZES INDICATED ARE CLEAR INSIDE DIMENSIONS REQUIRED.
5. REFER TO ELECTRICAL DRAWINGS FOR VOLTAGE REQUIREMENTS OF ALL EQUIPMENT.
6. SUPPORT ALL DUCTS, PIPING, AND EQUIPMENT FROM PRIMARY BUILDING STRUCTURAL MEMBERS. PROVIDE ADDITIONAL STRUCTURAL MEMBERS WHERE NECESSARY TO ACCOMPLISH THIS REQUIREMENT.
7. EXCEPT IN CASES IN WHICH THE MECHANICAL CONTRACTOR IS THE PRIME CONTRACTOR, THE TEST AND BALANCE CONTRACTOR SHALL BE A SUB-CONTRACTOR TO THE PRIME CONTRACTOR AND NOT A SUB-CONTRACTOR TO THE MECHANICAL CONTRACTOR.

LEGEND

NEW WORK PLANS		NEW WORK PLANS CONTINUED	
	NEW DUCT, PIPING OR EQUIPMENT	HP.	HORSEPOWER
24/12	DUCT SIZE: FIRST DIMENSION IS SIDE DRAWN	IN.	INCHES
20/12	DUCT SECTION, POSITIVE	IN. W.G. / FT. W.G.	INCHES WATER GAUGE / FEET WATER GAUGE
20/12	DUCT SECTION, NEGATIVE	KW.	KILOWATTS
	FLEXIBLE DUCT CONNECTION	MNFR	MANUFACTURER
	SQUARE ELBOW WITH TURNING VANES	MAX.	MAXIMUM
	RADIUS ELBOW WITH TURNING VANES	MBH	BTUH x 1000
	TRANSITION	MIN.	MINIMUM
MVD	MANUAL VOLUME DAMPER	MIN. EFF.	MINIMUM EFFICIENCY
AP	ACCESS DOORS, VERTICAL OR HORIZONTAL	OPER.	OPERATING
AP SD	SMOKE DAMPER AND SLEEVE	O.A.	OUTDOOR AIR
DSD	DUCT MOUNTED SMOKE DETECTOR	%	PERCENT
	RIGID ROUND DUCTWORK	NC	NOISE CRITERIA
	FLEXIBLE DUCT	R.P.M.	REVOLUTIONS PER MINUTE
A CFM THROW	GRILLE DESIGNATION	SEER	SEASONAL ENERGY EFFICIENCY RATIO
AFF.	ABOVE FINISHED FLOOR	TEMP.	TEMPERATURE
CAP.	CAPACITY	VAV	VARIABLE AIR VOLUME
C.F.M.	CUBIC FEET PER MINUTE	WT.	WEIGHT
°F	DEGREES FAHRENHEIT		CONCRETE
DX	DIRECT EXPANSION	T FPB-1	WALL MOUNTED T'STAT W/ASSOCIATED EQUIPMENT IDENTIFIED
db/wb	DRY BULB/WET BULB	R	REFRIGERANT LINE PAIR
EFF.	EFFICIENCY	C	CONDENSATE DRAIN LINE
EER	ENERGY EFFICIENCY RATIO		DROPPING OR RISING PIPE
E.A.T./L.A.T.	ENTERING AIR TEMP/LEAVING AIR TEMP		PIPE SLEEVE THROUGH WALL
ENT./LVG.	ENTERING/LEAVING		BOTTOM CONNECTION FITTING
E.S.P.	EXTERNAL STATIC PRESSURE		TOP CONNECTION FITTING
FT.	FEET		ELBOW TURNED UP
F.P.M.	FEET PER MINUTE		ELBOW TURNED DOWN

Revisions: Date

CONSULTANTS:

CLARK•NEXSEN
440 MARTIN LUTHER KING, JR. BLVD
MACON, GEORGIA 31201
478·743·8415 FAX 478·743·8239
WWW.CLARKNEXSEN.COM
CLARK NEXSEN LICENSE #C-1028

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038134 LINTON T. HARDIE

ARCHITECT/ENGINEERS:

TOLAND MIZELL MOLNAR
590 MEANS ST NW ATLANTA GA 30318

Drawing Title: LEGEND AND GENERAL NOTES - MECHANCAL

Approved: Project Director

Project Title: FAYETTEVILLE CLC PROJECT ONE

Location: FAYETTEVILLE, NC

Date: February 5, 2015 | Checked: WAW | Drawn: TAB

Project Number: 565-131

Building Number: .

Drawing Number: M001

Dwg. of .

FINAL SUBMITTAL

OFFICE OF CONSTRUCTION AND FACILITIES MANAGEMENT

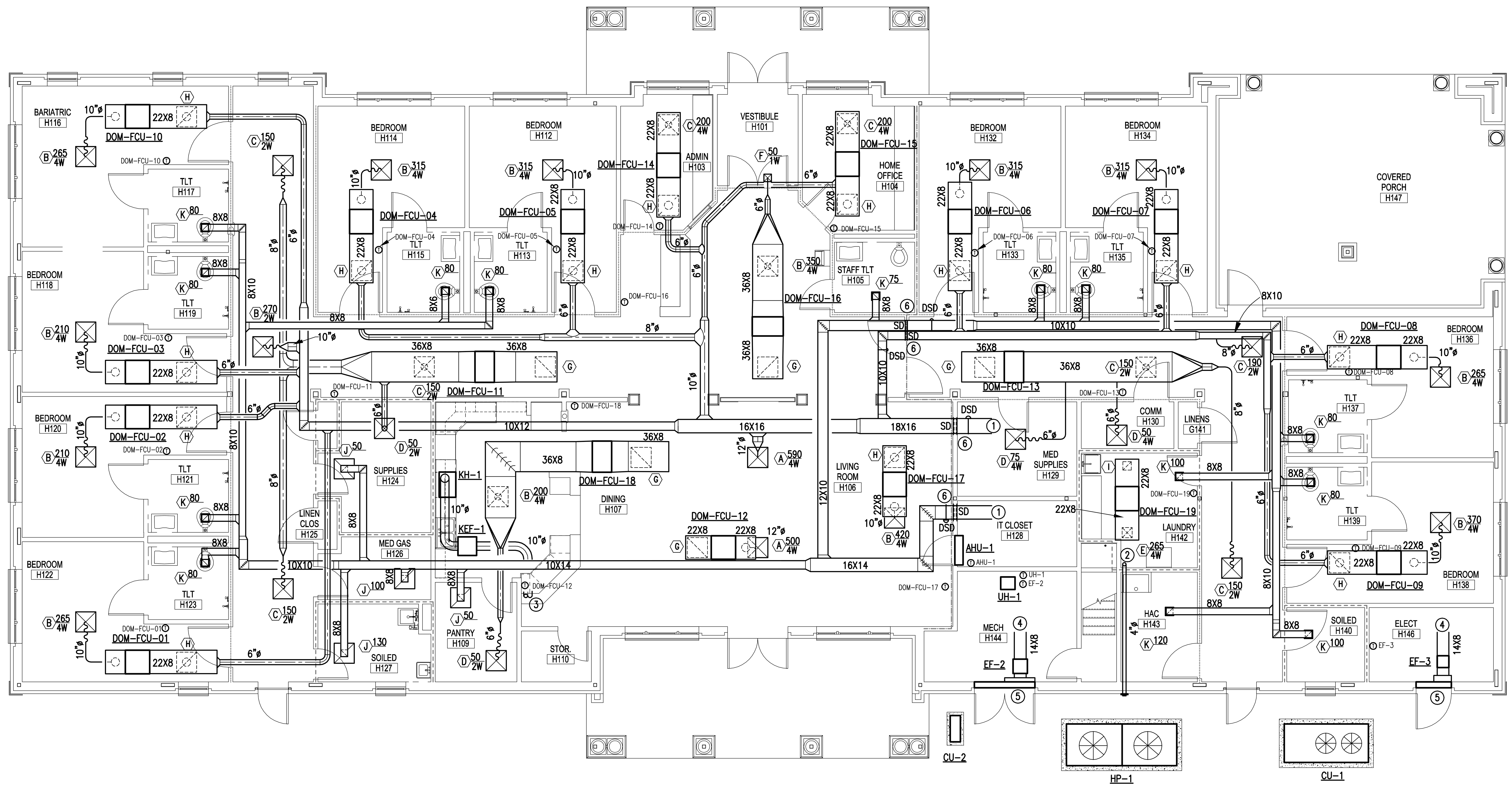
Department of Veterans Affairs

VA FORM 08-6231
CN 5119

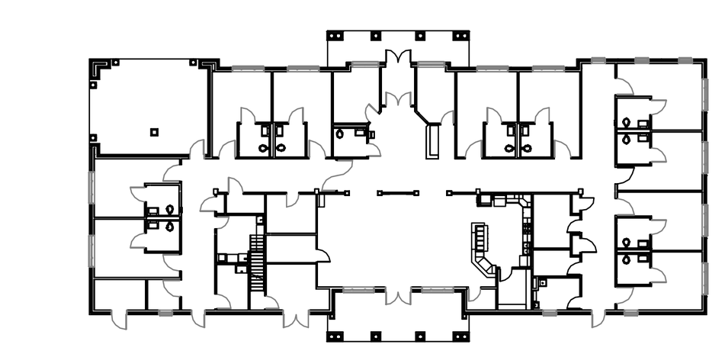
FILE NAME: H:\2013\5119-VA Fayetteville CLC\Drawings\5119 M001.dwg LAYOUT NAME: M001 PLOTTED: Monday, February 02, 2015 - 4:52pm

NOTES:
(THIS SHEET ONLY)

1. SEE MEZZANINE PLAN FOR CONTINUATION
2. 4"⌀ DRYER VENT TO WALL CAP.
3. GREASE DUCT FROM KITCHEN HOOD TO DRUM LOUVER IN ATTIC. SEE CONTINUATION ON MEZZANINE PLAN.
4. OPEN DUCTWORK IN ROOM FOR VENTILATION.
5. CONNECT EXHAUST DUCT TO LOUVER ABOVE DOOR PROVIDED BY ARCHITECTURAL.
6. DUCT SMOKE DETECTOR PROVIDED BY FIRE ALARM CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR. SEE DETAIL FOR INSTALLATION OF SMOKE DAMPER.



10 BED HOME FLOOR PLAN - MECHANICAL
SCALE: 3/16" = 1'-0"



NOTE : ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION FLOOR PLAN DRAWINGS OF THE BUILDING ENVELOPE AND INTERIOR FOR THE 10 BEDROOM HOUSES ARE DRAWN OPPOSITE HAND (MIRROR IMAGE) OF THE REQUIRED ORIENTATION. REFERENCE THIS KEY PLAN AND/OR CIVIL AND LANDSCAPE DRAWINGS FOR THE PROPER BUILDING ORIENTATION AND ASSOCIATED WALKS, DRIVES, PARKING AND SITE UTILITIES.

BUILDING ORIENTATION KEY PLAN

FINAL SUBMITTAL

Revisions:	Date

CONSULTANTS:

CLARK•NEXSEN
440 MARTIN LUTHER KING, JR. BLVD
MACON, GEORGIA 31201
478-743-8415 FAX 478-743-8239
WWW.CLARKNEXSEN.COM
CLARK NEXSEN LICENSE #C-1028

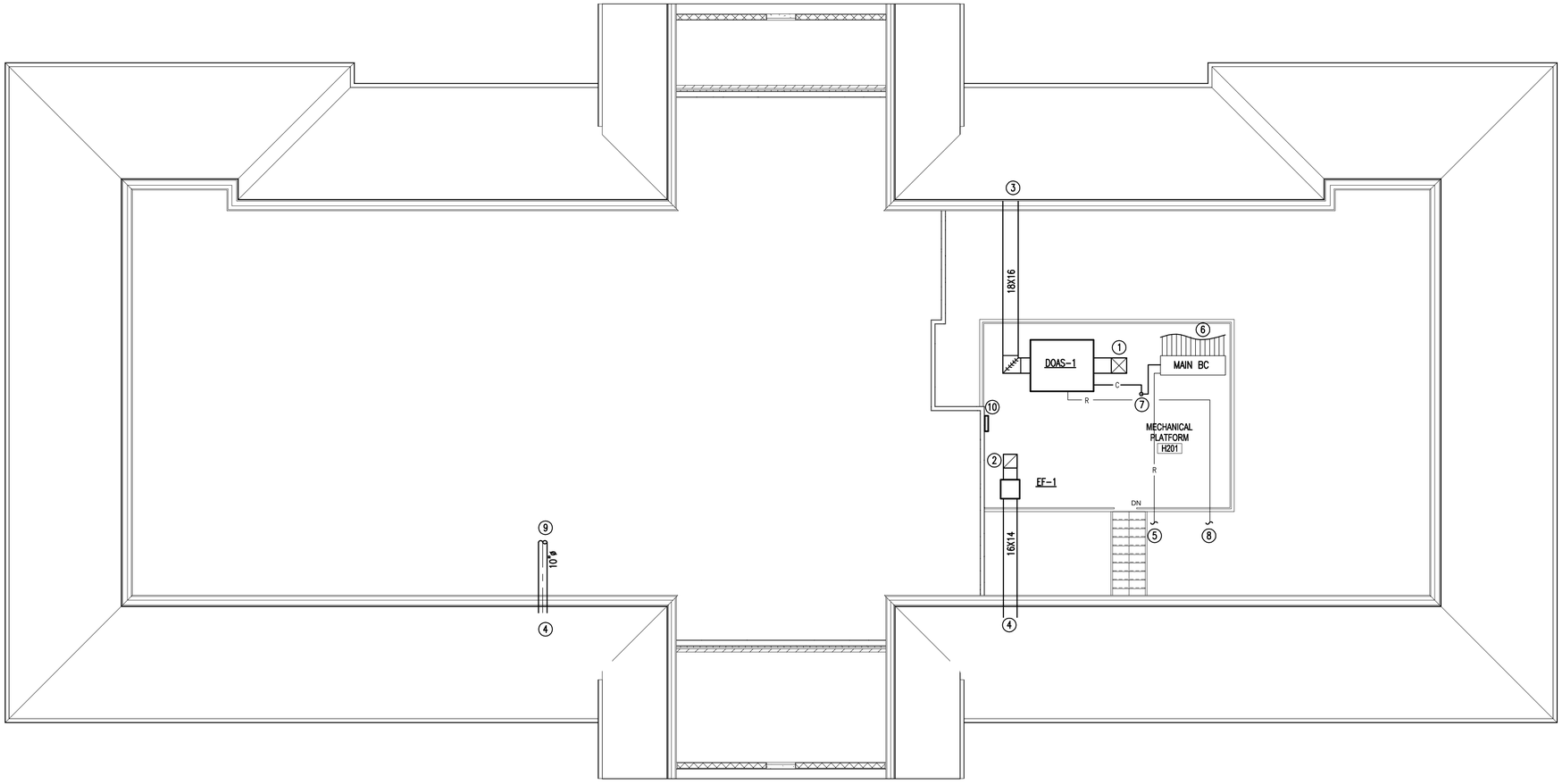
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036134 CLINTON T. HARDIE

ARCHITECT/ENGINEERS:

TOLAND MIZELL MOLNAR
590 MEANS ST NW ATLANTA GA 30318

Drawing Title: DUCTWORK PLAN - MECHANICAL	Project Title: FAYETTEVILLE CLC PROJECT ONE	Project Number: 565-131	OFFICE OF CONSTRUCTION AND FACILITIES MANAGEMENT
		Building Number: .	
Approved: Project Director	Location: FAYETTEVILLE, NC	Drawing Number: MH101	Department of Veterans Affairs
	Date: February 5, 2015 / Checked: WAW / Drawn: TAB	Dwg. of .	

VA FORM 08-6231
CN 5119



NOTES:
(THIS SHEET ONLY)

1. OUTSIDE AIR DUCT DOWN TO FLOOR BELOW. SEE FLOOR PLAN FOR CONTINUATION.
2. EXHAUST DUCT UP FROM FLOOR BELOW. SEE FLOOR PLAN FOR CONTINUATION.
3. CONNECT OUTSIDE AIR TO ARCHITECTURAL DORMER PLENUM. SEE DETAIL ON SHEET M501.
4. CONNECT EXHAUST DUCT TO ARCHITECTURAL LOUVER.
5. REFRIGERANT LINE TO HEAT PUMP ON GRADE. SEE FLOOR PLAN FOR CONTINUATION.
6. REFRIGERANT PIPING DOWN TO FAN COIL UNITS. SEE FLOOR PLAN FOR CONTINUATION.
7. CONDENSATE LINE DOWN BELOW MEZZANINE. SEE FLOOR PLAN FOR CONTINUATION.
8. REFRIGERANT LINE DOWN TO CONDENSING UNIT ON GRADE. SEE FLOOR PLAN FOR CONTINUATION.
9. GREASE DUCT FROM KITCHEN HOOD. CONNECT DUCT TO ARCHITECTURAL DORMER PLENUM IN ATTIC SPACE. SEE FLOOR PLAN FOR CONTINUATION.
10. VRF CENTRAL CONTROLLER MOUNTED ON WALL.

10 BED HOME
MEZZANINE FLOOR PLAN – MECHANICAL
SCALE: 3/16" = 1'-0" 0 4' 8' 12'

PLAN ORIENTATION TO BE CONSTRUCTED IN THIS PROJECT

NOTE : ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION FLOOR PLAN DRAWINGS OF THE BUILDING ENVELOPE AND INTERIOR FOR THE 10 BEDROOM HOUSES ARE DRAWN OPPOSITE HAND (MIRROR IMAGE) OF THE REQUIRED ORIENTATION. REFERENCE THIS KEY PLAN AND/OR CIVIL AND LANDSCAPE DRAWINGS FOR THE PROPER BUILDING ORIENTATION AND ASSOCIATED WALKS, DRIVES, PARKING AND SITE UTILITIES.

BUILDING ORIENTATION KEY PLAN

Revisions: Date

CONSULTANTS:

CLARK•NEXSEN
440 MARTIN LUTHER KING, JR. BLVD
MACON, GEORGIA 31201
478-743-8415 FAX 478-743-8239
WWW.CLARKNEXSEN.COM
CLARK NEXSEN LICENSE #C-1028

NORTH CAROLINA PROFESSIONAL SEAL 030634 ENGINEER CLINTON T. HARDIE

ARCHITECT/ENGINEERS:

TOLAND MIZELL MOLNAR
590 MEANS ST NW ATLANTA GA 30318

Drawing Title: 10 BED HOME MEZZANINE FLOOR PLAN - MECHANICAL

Approved: Project Director

Project Title: FAYETTEVILLE CLC PROJECT ONE

Location: FAYETTEVILLE, NC

Date: February 5, 2015 | Checked: MAW | Drawn: TAB

Project Number: 565-131

Building Number: .

Drawing Number: MH102

Dwg. of .

FINAL SUBMITTAL

OFFICE OF CONSTRUCTION AND FACILITIES MANAGEMENT

Department of Veterans Affairs

VA FORM 08-6231
CN 5119

GENERAL NOTES:

A. REFRIGERANT LINES SHOWN ARE A LINE PAIR, SEE VRF SCHEMATIC PLANS ON SHEET M602 FOR PIPE SIZES.

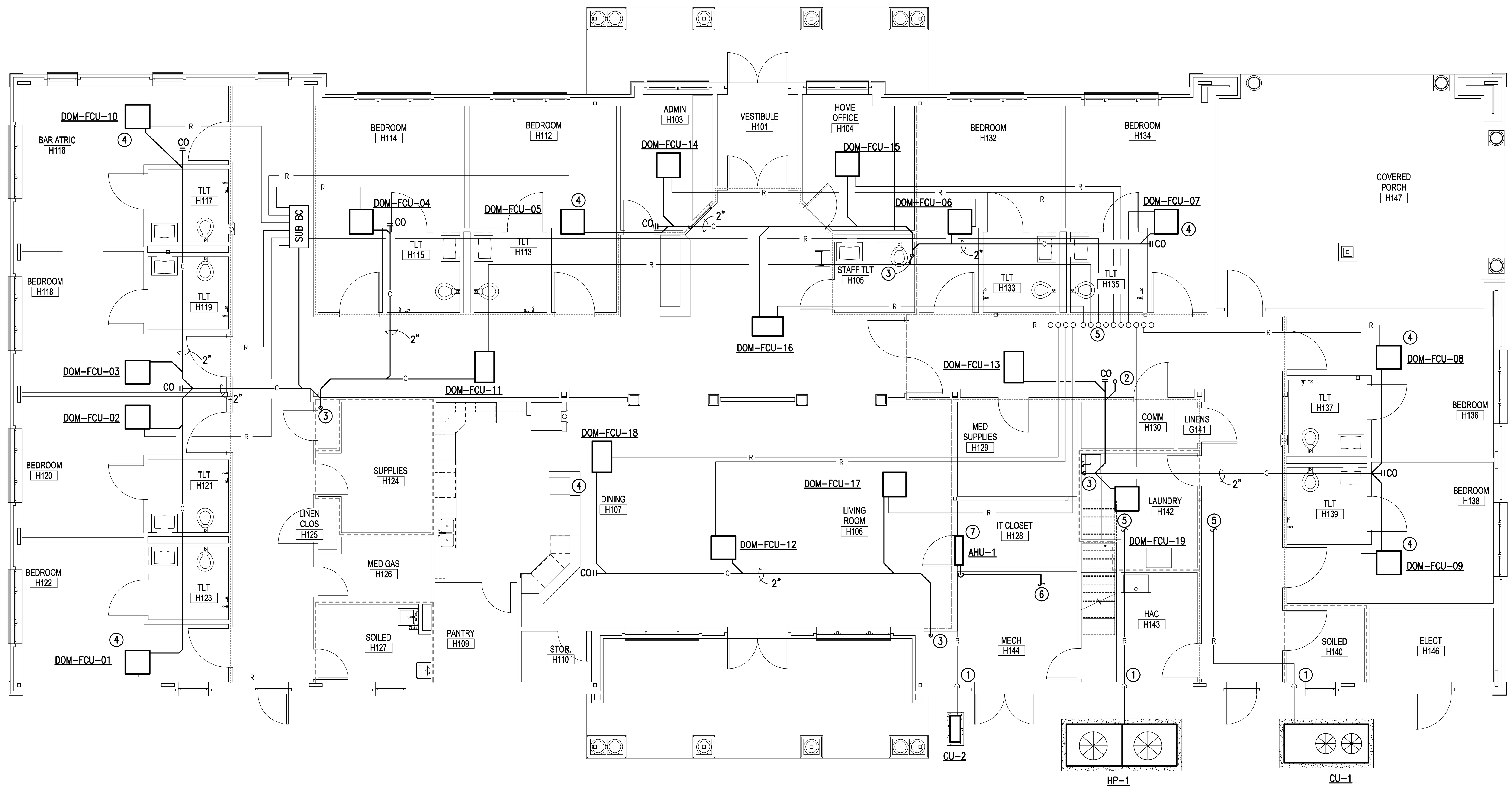
B. INSTALL CONDENSATE LINE WITH A MINIMUM 1/4" PER FOOT SLOPE.

C. CONDENSATE LINE RUNOUTS TO FAN COIL UNITS SHALL BE 1-1/4" DIAMETER. CONDENSATE LINE MAINS SHALL BE 2" DIAMETER.

NOTES:

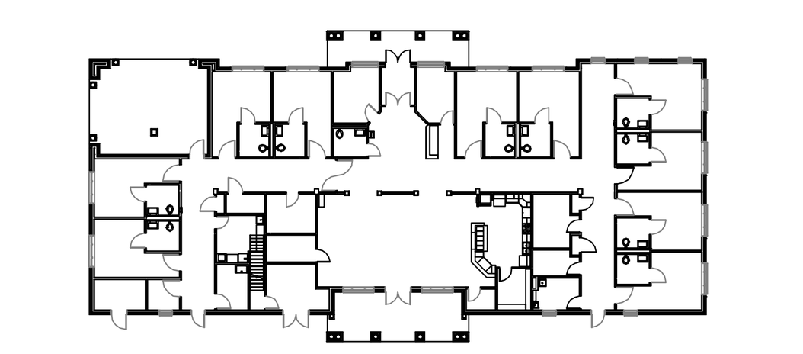
(THIS SHEET ONLY)

1. REFRIGERANT LINE SET UP IN WALL.
2. CONDENSATE DOWN FROM MEZZANINE. SEE MEZZANINE PLAN FOR CONTINUATION.
3. RUN CONDENSATE TO HUB DRAIN PROVIDED BY PLUMBING.
4. CONDENSATE LINE SHALL BE RAISED A MINIMUM OF 13" ABOVE CONDENSATE OUTLET OF UNIT BEFORE SLOPING TOWARD DRAIN.
5. REFRIGERANT LINE TO MEZZANINE.
6. RUN CONDENSATE LINE FROM IT ROOM TO FLOOR DRAIN IN MECHANICAL ROOM. CONDENSATE LINE SHALL BE HARD COPPER TUBING IN MECHANICAL ROOM.
7. MOUNT AHU-1 ON WALL ABOVE DOOR.



10 BED HOME FLOOR PLAN - MECHANICAL

SCALE: 3/16" = 1'-0"



PLAN ORIENTATION TO BE CONSTRUCTED IN THIS PROJECT

NOTE : ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION FLOOR PLAN DRAWINGS OF THE BUILDING ENVELOPE AND INTERIOR FOR THE 10 BEDROOM HOUSES ARE DRAWN OPPOSITE HAND (MIRROR IMAGE) OF THE REQUIRED ORIENTATION. REFERENCE THIS KEY PLAN AND/OR CIVIL AND LANDSCAPE DRAWINGS FOR THE PROPER BUILDING ORIENTATION AND ASSOCIATED WALKS, DRIVES, PARKING AND SITE UTILITIES.

BUILDING ORIENTATION KEY PLAN

FINAL SUBMITTAL

Revisions:	Date

CONSULTANTS:

CLARK•NEXSEN
440 MARTIN LUTHER KING, JR. BLVD
MACON, GEORGIA 31201
478-743-8415 FAX 478-743-8239
WWW.CLARKNEXSEN.COM
CLARK NEXSEN LICENSE #C-1028

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030634 CLINTON T. HARDIE

ARCHITECT/ENGINEERS:

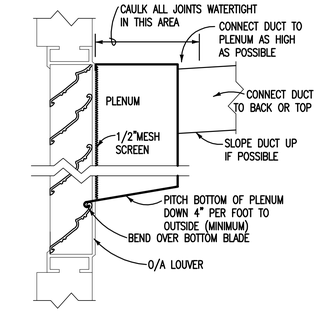
TOLAND MIZELL MOLNAR
590 MEANS ST NW ATLANTA GA 30318

Drawing Title:	PIPING PLAN - MECHANICAL
Approved: Project Director	
Project Title:	FAYETTEVILLE CLC PROJECT ONE
Location:	FAYETTEVILLE, NC
Date:	February 5, 2015
Checked:	WAW
Drawn:	TAB
Project Number:	565-131
Building Number:	.
Drawing Number:	MP101
Dwg. of	

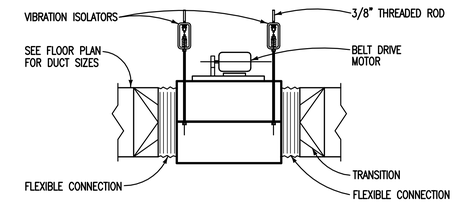
OFFICE OF CONSTRUCTION AND FACILITIES MANAGEMENT

Department of Veterans Affairs

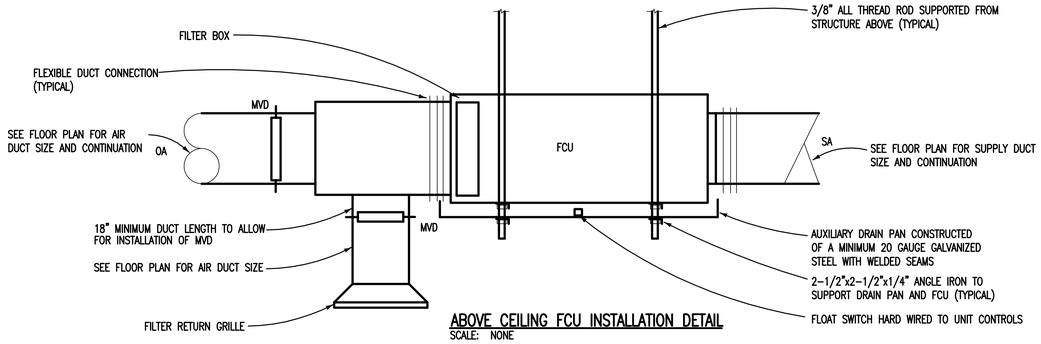
VA FORM 08-6231
CN 5119



DUCT CONNECTION TO WATERPROOF LOUVER
SCALE: NONE

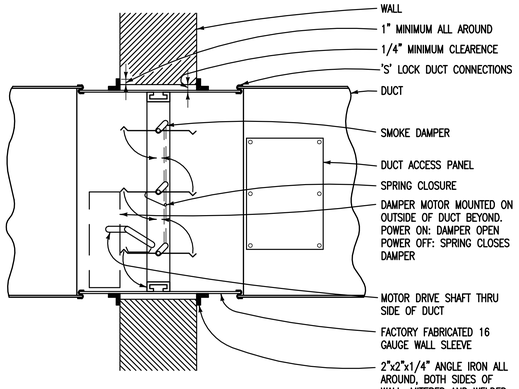


INLINE FAN SUPPORT DETAIL
SCALE: NONE

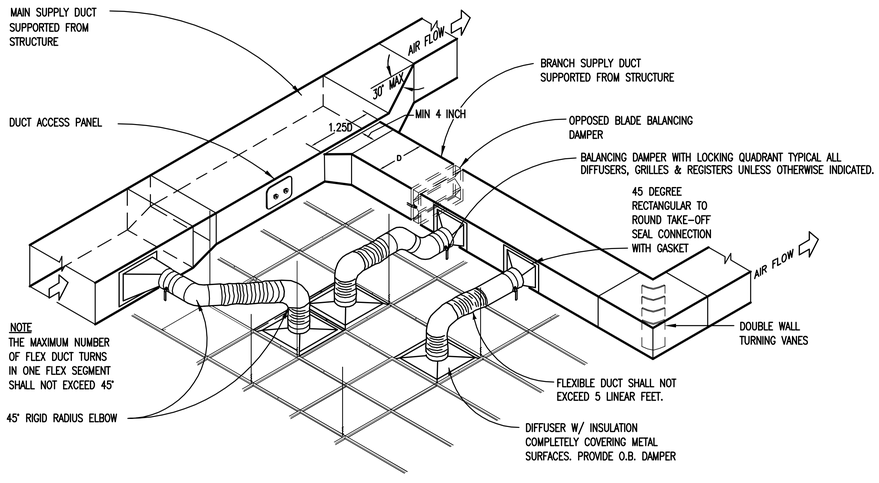


ABOVE CEILING FCU INSTALLATION DETAIL
SCALE: NONE

NOTES:
1. DETAIL FOR GENERAL GUIDANCE. INSTALL EACH SMOKE DAMPER IN STRICT ACCORDANCE WITH INSTALLATION INSTRUCTIONS PACKED WITH DAMPER TO ENSURE UL RATING.
2. PROVIDE 24V OR 120V POWER AS REQUIRED. COORDINATE WITH ELECTRICAL CONTRACTOR.
3. SMOKE DAMPER SHALL ACTUATE CLOSED AND ALERT FIRE ALARM SYSTEM WHEN UPSTREAM SMOKE DETECTOR OR FIRE ALARM SYSTEM IS ACTIVATED.



SMOKE DAMPER DETAIL
SCALE: NONE



TYPICAL SYSTEM AND MATERIAL INSTALLATION
SCALE: NONE

Revisions: Date

CONSULTANTS:

CLARK•NEXSEN
440 MARTIN LUTHER KING, JR. BLVD
MACON, GEORGIA 31201
478-743-8415 FAX 478-743-8239
WWW.CLARKNEXSEN.COM
CLARK NEXSEN LICENSE #C-1028

NORTH CAROLINA PROFESSIONAL SEAL 30634 ENGINEER CLINTON T. HARDEE

ARCHITECT/ENGINEERS:

TOLAND MIZELL MOLNAR
590 MEANS ST NW ATLANTA GA 30318

Drawing Title: DETAILS - MECHANICAL

Approved: Project Director

Project Title: FAYETTEVILLE CLC PROJECT ONE

Location: FAYETTEVILLE, NC

Date: February 5, 2015 | Checked: WAW | Drawn: TAB

Project Number: 565-131

Building Number: .

Drawing Number: M501

Dwg. of .

FINAL SUBMITTAL

OFFICE OF CONSTRUCTION AND FACILITIES MANAGEMENT

Department of Veterans Affairs

VA FORM 08-6231
CN 5119

FAN COIL UNIT SCHEDULE

MARK	MNFR: MITSUBISHI	MNFR: DAIKIN	MNFR: FUJITSU	MODEL NO.	SUPPLY C.F.M.	O.A. C.F.M.	E.S.P. IN. W.G.	MAX. WATTS	TOTAL COOLING MBH	SENSIBLE COOLING MBH	REVERSE CYCLE MBH	NOTES
DOM-FCU-01	*			PEFY-P08NMAU-E	265	80	0.4	90	6.678	6.073	4.863	1;2;3;4;
DOM-FCU-02	*			PEFY-P08NMAU-E	210	80	0.4	90	5.731	4.7	3.53	1;2;3;4;
DOM-FCU-03	*			PEFY-P08NMAU-E	210	80	0.4	90	5.756	4.719	3.537	1;2;3;4;
DOM-FCU-04	*			PEFY-P12NMAU-E	315	80	0.4	90	8.855	7.007	5.608	1;2;3;4;
DOM-FCU-05	*			PEFY-P12NMAU-E	315	80	0.4	90	8.87	7.022	5.614	1;2;3;4;
DOM-FCU-06	*			PEFY-P12NMAU-E	315	80	0.4	90	8.578	6.816	5.568	1;2;3;4;
DOM-FCU-07	*			PEFY-P12NMAU-E	315	80	0.4	90	8.11	6.327	5.443	1;2;3;4;
DOM-FCU-08	*			PEFY-P08NMAU-E	265	80	0.4	90	7.278	5.468	3.942	1;2;3;4;
DOM-FCU-09	*			PEFY-P12NMAU-E	370	80	0.4	90	9.066	7.282	6.394	1;2;3;4;
DOM-FCU-10	*			PEFY-P12NMAU-E	265	80	0.4	90	7.297	6.571	5.626	1;2;3;4;
DOM-FCU-11	*			PEFY-P18NMAU-E3	500	–	0.4	90	15.568	8.821	10.617	1;2;3;4;
DOM-FCU-12	*			PEFY-P30NBMU-E	500	–	0.4	90	23.836	18.463	9.54	1;2;3;4;
DOM-FCU-13	*			PEFY-P15NMAU-E3	425	–	0.4	90	12.672	5.917	7.36	1;2;3;4;
DOM-FCU-14	*			PEFY-P08NMAU-E	200	40	0.4	90	3.207	2.41	1.517	1;2;3;4;
DOM-FCU-15	*			PEFY-P08NMAU-E	200	50	0.4	90	4.405	3.187	1.959	1;2;3;4;
DOM-FCU-16	*			PLFY-P15NCMU-E	400	–	0.4	90	13.893	8.556	7.65	1;2;3;4;
DOM-FCU-17	*			PEFY-P15NMAU-E	420	–	0.4	90	14.692	9.993	5.686	1;2;3;4;
DOM-FCU-18	*			PEFY-P08NMAU-E	250	–	0.4	90	6.193	4.142	4.215	1;2;3;4;
DOM-FCU-19	*			PEFY-P12NMAU-E3	265	–	0.4	90	8.633	7.468	4.102	1;2;3;4;
AHU-1	*			PKA-A12HA-4	370	–	–	50	12.0	–	–	1;2;5;

NOTES
1. AIR HANDLING UNIT AND CONDENSING UNIT SHALL BE OF SAME MANUFACTURER AND BE SPECIFICALLY DESIGNED TO OPERATE AS A SET..
2. UNIT SHALL BE PROVIDED WITH SINGLE POINT ELECTRIC CONNECTION.
3. CONCEALED SUSPENDED DUCTED UNIT HUNG FROM STRUCTURE.
4. PROVIDE UNIT WITH FACTORY SUPPLIED FILTER BOX FOR 2" (MERV 13) REPLACEABLE FILTERS.
5. WALL HUNG UNIT. AHU-1 IS MATCHED WITH CU-2. PROVIDE WITH HARD WIRED THERMOSTAT.

UNIT HEATER SCHEDULE

MARK	C.F.M.	MNFR: TRANE	MNFR: MODINE	MODEL NO.	PERFORMANCE: MBH	PERFORMANCE: G.P.M. LB/HR. KW.	PERFORMANCE: P.D. FT. W.G.	MAX. DIMENSIONS: LENGTH	MAX. DIMENSIONS: WIDTH	MAX. DIMENSIONS: HEIGHT	MAX. DIMENSIONS: RECESSED DEPTH	MOTOR: H.P.	MOTOR: R.P.M.	MOTOR: 3 SPEED	PIPE SIZE: S IN.	PIPE SIZE: R IN.	NOTES
UH-1	530		*	HER 50	–	5 KW	–	17	15	21	–	1/40	–		–	–	1;2;

E.W.T. °F
E.A.T. °F
W.T.D. °F

NOTES
1. HORIZONTAL, WALL OR CEILING HUNG UNIT.
2. UNIT HEATER SHALL BE CONTROLLED BY A LINE VOLTAGE THERMOSTAT LOCATED IN MECHANICAL ROOM SET TO ENERGIZE UNIT AT 55°F (ADJUSTABLE)

HEAT PUMP SCHEDULE

MARK	MNFR: MITSUBISHI	MNFR: DAIKIN	MNFR: AAON	MODEL NO.	TOTAL COOLING MBH	REV. CYCLE HEATING MBH	MINIMUM SEER OR IEER BTU/HR. W.	NOTES
HP-1	*			PURY-P192TSKMU-A	192	215	18.9 IEER	1;2;3;4;
CU-1		*		CC-C-014	145	–	11.0 EER	1;3;4;5;
CU-2	*			PUY-A12NHA4	12.0	–	15.2 SEER	1;3;4;6;

NOTES
1. COOLING CAPACITY BASED ON 95°F AMBIENT AIR TEMPERATURE.
2. HEATING CAPACITY BASED ON 43°F AMBIENT AIR TEMPERATURE.
3. CONDENSING UNIT AND AIR HANDLING UNIT SHALL BE OF SAME MANUFACTURER SPECIFICALLY DESIGNED TO OPERATE AS A SET.
4. SEER/IEER IS FOR THE ENTIRE SYSTEM.
5. CU-1 IS MATCHED WITH DOAS-1.
6. CU-2 IS MATCHED WITH AHU-1

FAN SCHEDULE

MARK	C.F.M.	E.S.P. IN. W.G.	MNFR: COOK	MNFR: GREENHECK	MODEL NO.	MOTOR: MAX. HP.	MAX. OPER. WEIGHT (LBS)	MAX. TIP SPEED F.P.M.	MAX. NOISE SONES	DRIVE: DIRECT	DRIVE: BELT	ACCESSORIES: GRAVITY DAMPER	ACCESSORIES: ELECTRIC DAMPER	ACCESSORIES: BIRD SCREEN	ACCESSORIES: ROOF CURB	NOTES
EF-1	1525	1.25	*		SQND	3/4	210	–	13.0	*		*				1;
EF-2	150	0.2	*		SQND	1/6	100	–	3.0	*		*				1;2;
EF-3	100	0.2	*		SQND	1/20	85	–	4.0	*		*				1;2;

GENERAL NOTE:
MARK SF=SUPPLY FAN
MARK EF=EXHAUST FAN
MARK RF=RETURN FAN

NOTES
1. INLINE CENTRIFUGAL FAN IN ATTIC SPACE.
2. FAN SHALL BE CONTROLLED BY LINE VOLTAGE THERMOSTAT SET TO ENERGIZE UNIT AT 85°F (ADJUSTABLE)

AIR DEVICE SCHEDULE

MARK	SIZE: FACE	SIZE: NECK	TYPE: DIFFUSER	TYPE: GRILLE	TYPE: LINEAR SLOT	TYPE: LOUVER	TYPE: TITUS	TYPE: ACUTHERM	MNFR	MODEL NO.	MATERIAL: STEEL (STL)	MATERIAL: ALUMINUM (AL)	FINISH: AL WITH STL FRAME	FINISH: OFF WHITE	FINISH: PRIMER	FINISH: CLR BY ANOD	ACCESSORIES: OPP BLADE DAMPER	ACCESSORIES: PAR BLADE DAMPER	ACCESSORIES: PLENUM	ACCESSORIES: FIRE DAMPER	ACCESSORIES: EQUALIZING GRID	MOUNTING: LAY-IN	MOUNTING: SURFACE	MOUNTING: FLUSH	MTG HT.: FLOOR TO BOTTOM	MTG HT.: CEILING	THROW: 4 - WAY	THROW: 3 - WAY	THROW: 2 - WAY	THROW: 1 - WAY	THROW: 2 - WAY CORNER	MAX. NC	MAX. LOSS IN. W.C.	NOTES
A	24/24	12ø	*				*			TMS	*			*			*					*				*	*					30	0.1	
B	24/24	10ø	*				*			TMS	*			*			*					*				*	*					30	0.1	
C	24/24	8ø	*				*			TMS	*			*			*					*				*	*					30	0.1	
D	24/24	6ø	*				*			TMS	*			*			*					*				*	*					30	0.1	
E	12/12	10ø	*				*			TDC	*			*			*						*			*	*					30	0.1	
F	9/9	6ø	*				*			TDC	*			*			*						*			*					*	30	0.1	
G	24/24	22/22		*			*			8FF	*			*			*					*				*						30	0.1	1;2;
H	24/24	10ø		*			*			8FF	*			*			*					*				*						30	0.1	1;2;
I	10/10	8/8		*			*			350RL	*			*			*						*			*						30	0.1	1;
J	24/24	22/22		*			*			350RL		*		*			*					*				*						30	0.1	1;
K	10/10	8/8		*			*			350RL		*		*			*						*			*						30	0.1	1;

NOTES
1. PAINT FLAT BLACK INTERIOR DUCT SURFACES VISIBLE FROM OUTSIDE THE GRILLE.
2. FILTER RETURN GRILLE.

MAKE-UP AIR UNITS

MARK	MNFR: DESSERT AIRE	MNFR: ADDISON	MNFR: AAON	MODEL NO.	FAN DATA: SUPPLY CFM	FAN DATA: MAX OA. CFM	FAN DATA: MIN. OA. CFM	FAN DATA: FAN HP.	FAN DATA: EXT. IN. WG	COOLING DATA: O.D. D.B. °F	COOLING DATA: EAT D.B. °F	COOLING DATA: EAT W.B. °F	COOLING DATA: LAT D.B. °F	COOLING DATA: LAT W.B. °F	COOLING DATA: TOTAL MBH	COOLING DATA: SENS MBH	HEATING DATA: O.D. D.B. °F	HEATING DATA: EAT D.B. °F	HEATING DATA: TOTAL MBH INPUT	HEATING DATA: TOTAL HEATING kW	TYPE: HYDRONIC	TYPE: FURNACE	TYPE: ELECT. RES.	MISC: ROOF CURB	MISC: MANUAL OA. DAMPER	MISC: AUTO OA. DAMPER	MISC: TIME PROG. TSTAT.	NOTES
DOAS-1			*	H3-CRB	1940	1940	1940	2.0	1.0	96.6	96.6	76.2	75.0	62.5	102.5	46.7	21.7	21.7	–	33.8			*			*	*	1;2;3;

NOTES
1. SPLIT SYSTEM WITH CONDENSING UNIT LOCATED ON GRADE AND DOAS IN ATTIC.
2. PROVIDE UNIT WITH HOT GAS REHEAT FOR DEHUMIDIFICATION.
3. PROVIDE AUXILLIARY DRAIN PAN UNDER INDOOR UNIT IN ATTIC SPACE.

KITCHEN VENTILATION SYSTEM SCHEDULE

HOOD: MARK	HOOD: MNFR. CREASMASTER	HOOD: TYPE GREENHECK	HOOD: TYPE EXHAUST	HOOD: TYPE MAKEUP	HOOD: TYPE SHORT CYCLE	HOOD: MODEL NO.	HOOD: DIMENSIONS L X W X H (IN.)	HOOD: MAX. WEIGHT LBS.	HOOD: ACCESSORIES GREASE FILTERS	HOOD: ACCESSORIES INTERNAL LIGHTS	HOOD: ACCESSORIES FIRE PROTECTION	HOOD: ACCESSORIES FACE MOUNTED CONTROLS	EXHAUST FAN: MARK	EXHAUST FAN: MNFR. COOK	EXHAUST FAN: MNFR. GREENHECK	EXHAUST FAN: MODEL NO.	EXHAUST FAN: C.F.M	EXHAUST FAN: E.S.P. IN. W.G.	EXHAUST FAN: MAX. HP.	EXHAUST FAN: MAX. WEIGHT LBS.	EXHAUST FAN: ACC. ROOF CURB	EXHAUST FAN: ACC. GREASE BOTTLE	EXHAUST FAN: ACC. BIRD SCREEN	NOTES
KH-1		*	*			GRRS	20X36X10.5	–	*			*	KEF-1		*	–	510	–	–	–				1;2;

NOTES
1. PROVIDE VACANCY SENSOR ON HOOD TO PREVENT TURN OFF HOOD AFTER 30 MINUTES (ADJUSTABLE) RUNTIME
2. PROVIDE INLINE EXHAUST FAN HUNG FROM STRUCTURE FOR KEF-1. REMOTE INLINE FAN IS PROVIDED WITH SPECIFIED HOOD.

Revisions: Date

CONSULTANTS:

CLARK•NEXSEN
440 MARTIN LUTHER KING, JR. BLVD
MACON, GEORGIA 31201
478-743-8415 FAX 478-743-8239
WWW.CLARKNEXSEN.COM
CLARK NEXSEN LICENSE #C-1028

NORTH CAROLINA PROFESSIONAL SEAL 035154 ENGINEER CLINTON T. HARDLE

ARCHITECT/ENGINEERS:
TOLAND MIZELL MOLNAR
590 MEANS ST NW ATLANTA GA 30318

Drawing Title: SCHEDULES
Approved: Project Director

Project Title: FAYETTEVILLE CLC PROJECT ONE
Location: FAYETTEVILLE, NC
Date: February 5, 2015 Checked: MAW Drawn: TAB

Project Number: 565-131
Building Number: .
Drawing Number: M601
Dwg. of .

FINAL SUBMITTAL

OFFICE OF CONSTRUCTION AND FACILITIES MANAGEMENT

Department of Veterans Affairs

VA FORM 08-6231
CN 5119

FILE NAME: M:\2015\15119-VA Fayetteville CLC\Drawings\15119 M601.dwg LAYOUT NAME: M601 PLOTTED: Monday, February 09, 2015 - 4:50pm

VRF SEQUENCE OF OPERATION

A. THE CENTRAL CONTROLLER SHALL ENABLE THE FAN COILS AND THE MAKE-UP AIR UNIT DURING OCCUPIED HOURS. THE CENTRAL CONTROLLER SHALL SUPPORT OPERATIONS THAT SUPERSEDE CONTROL OF THE REMOTE CONTROLLERS AND INCLUDE SYSTEM CONFIGURATION, DAILY/WEEKLY SCHEDULING, OPERATION, AND MALFUNCTION MONITORING.

B. MAKE-UP AIR UNIT OPERATION: WHEN THE VRF SYSTEM ENABLES THE MAKE-UP AIR UNIT, IT SHALL BE CONTROLLED WITH FACTORY CONTROLS TO MAINTAIN SUPPLY AIR TEMPERATURE AT 72°F AND HUMIDITY AT 50%.

DIAGRAM SYMBOL LEGEND

DISPLAY	DESCRIPTION
—///—	POWER WIRE
——	CONTROL WIRE
— — —	REF. PIPE
T	THERMOSTAT
	PIPING TEE
	PIPE REDUCER

PIPING LIST

SYMBOL	LIQUID PIPE	GAS PIPE SIZE
P1	1/4	1/2
P2	3/8	5/8
P3	3/8 5/8	3/4
P4	7/8	
P5		1 1/8
P6	3/4	
P7		7/8
P8	7/8	1-1/8

NOTE:
P3 IS THE LINE FROM THE MAIN BRANCH CONTROLLER TO THE SUB BRANCH CONTROLLER.

GENERAL NOTES:
(THIS SHEET ONLY)

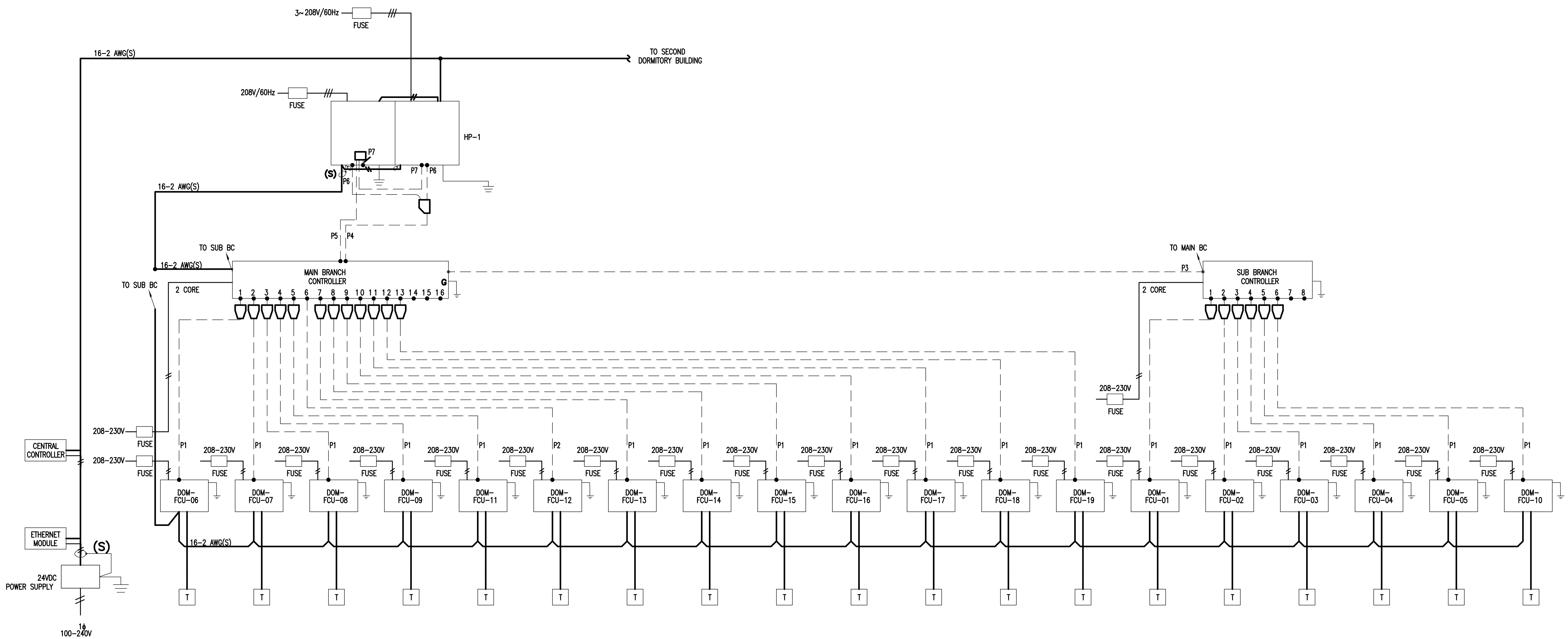
A. THE VRF SYSTEM SHOWN ON THIS DRAWING IS SCHEMATIC AND USES THE MITSUBISHI CITY-MULTI SYSTEM AS THE BASIS OF DESIGN. IF ANOTHER MANUFACTURER IS USED FOR THIS PROJECT, IT IS THE CONTRACTORS RESPONSIBILITY TO OBTAIN MANUFACTURER'S RECOMMENDED SCHEMATIC AND INSTALL ACCORDING TO THAT SCHEMATIC.

B. THE MITSUBISHI CITY-MULTI SYSTEM IS A TWO PIPE, VARIABLE REFRIGERANT FLOW SYSTEM. INSULATE BOTH LINES OF THE SYSTEM.

C. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR THE SYSTEM SHOWING THE PROPOSED ROUTING OF REFRIGERANT PIPING WITHIN THE BUILDING.

D. ISOLATION BALL VALVES SHALL BE INSTALLED ON ALL PORTS OF THE BRANCH CONTROLLERS EVEN IF THE PORT IS NOT USED.

E. IDENTIFY REFRIGERANT PIPE AS REQUIRED IN SPECIFICATIONS WITH STENCILS OR PIPE MARKERS. IDENTIFICATION TO INCLUDE CONTROLLER PORT NUMBER AND FAN COIL UNIT ASSOCIATED WITH PIPE



HP-1 (DORMITORY) SYSTEM SCHEMATIC
SCALE: NONE

FINAL SUBMITTAL

Revisions: | Date

CONSULTANTS:

CLARK◆NEXSEN
440 MARTIN LUTHER KING, JR. BLVD
MACON, GEORGIA 31201
478-743-8415 FAX 478-743-8239
WWW.CLARKNEXSEN.COM
CLARK NEXSEN LICENSE #C-1028

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036734 LINTON T. HARDIE

ARCHITECT/ENGINEERS:
TOLAND MIZELL MOLNAR
590 MEANS ST NW ATLANTA GA 30318

Drawing Title: DORMITORY VRF PIPING DETAIL

Approved: Project Director

Project Title: FAYETTEVILLE CLC PROJECT ONE

Location: FAYETTEVILLE, NC

Date: February 5, 2015 | Checked: WAW | Drawn: TAB

Project Number: 565-131

Building Number: .

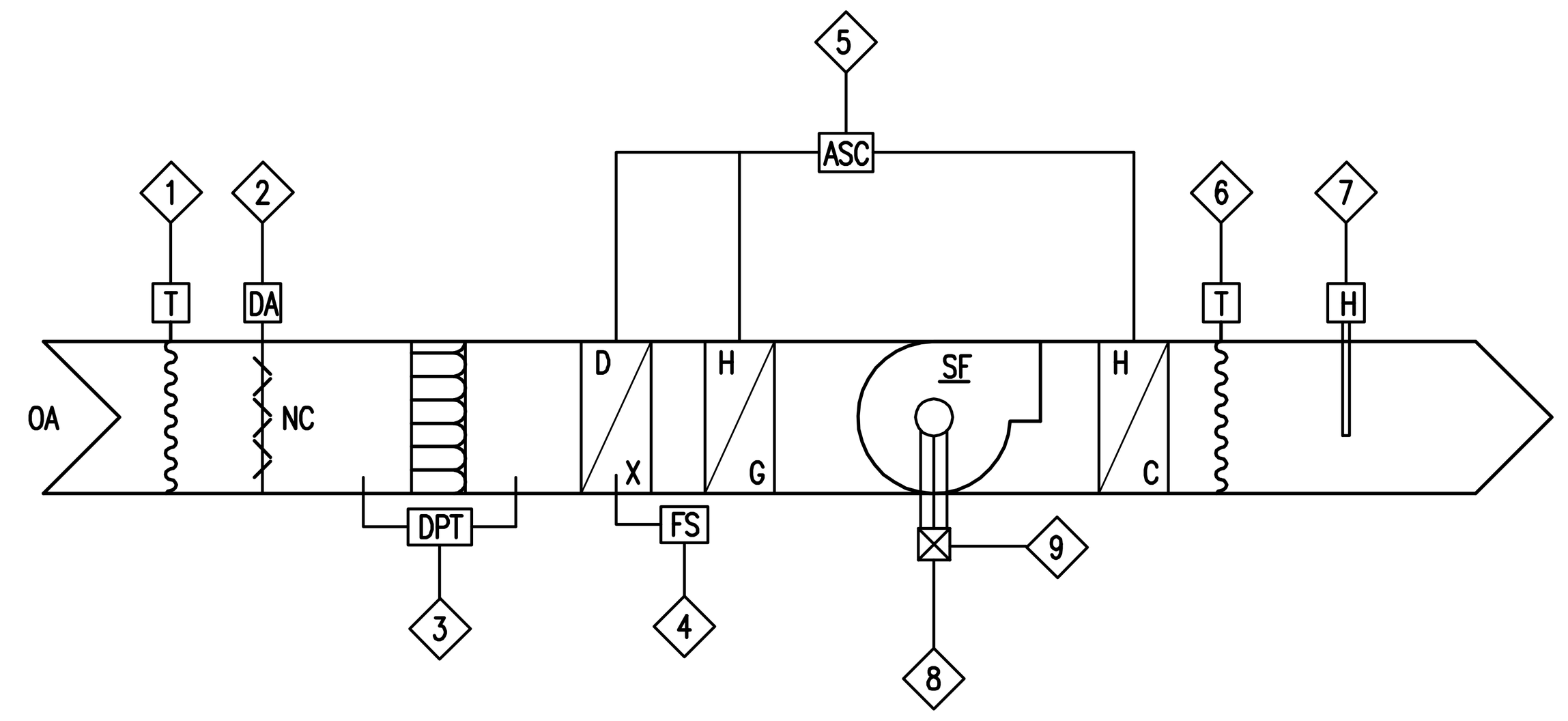
Drawing Number: M602

Dwg. of .

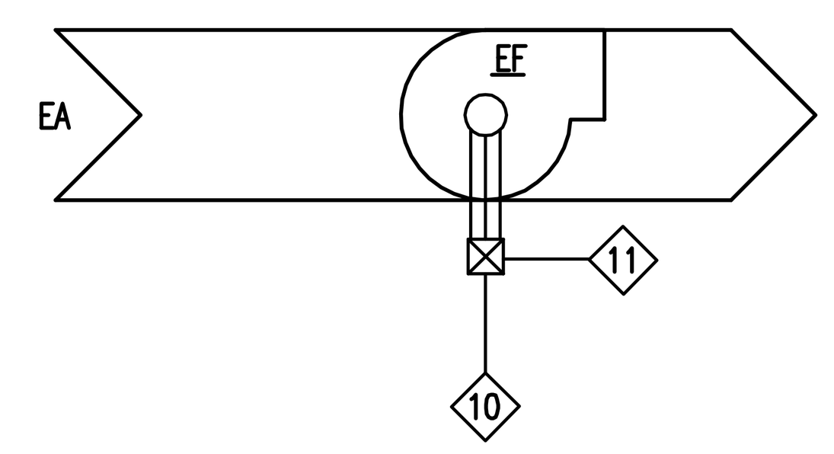
OFFICE OF CONSTRUCTION AND FACILITIES MANAGEMENT

Department of Veterans Affairs

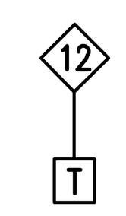
VA FORM 08-6231
CN 5119



AIR HANDLING UNIT DOAS-1
SCALE: NONE



GENERAL EXHAUST FAN
SCALE: NONE



IT CLOSET AHU-1
SCALE: NONE

DOAS-1 CONTROL SEQUENCE

SUPPLY FAN OPERATING CONTROLS SHALL INCLUDE
1. DISCONNECT SWITCH
2. HAND OFF AUTO SELECT SWITCH
3. FLOAT SWITCH MOUNTED IN THE COOLING COIL DRAIN PAN

WITH THE SAFETY CONTROLS IN THE NORMAL POSITION AND THE VFD IN THE AUTO POSITION THE FAN MOTOR SHALL ALWAYS RUN AND THE UNIT SHALL MAINTAIN SUPPLY AIR TEMPERATURE DURING OCCUPIED TIMES. DURING UNOCCUPIED TIMES TEMPERATURE SHALL RESET TO 60°F IN HEATING MODE (ADJUSTABLE) AND 80°F IN COOLING MODE (ADJUSTABLE).

ELECTRIC HEATING COILS:
1. IN HEATING MODE, THE CONTROLS SHALL MODULATE SCR CONTROLLED HEATER TO MAINTAIN SUPPLY AIR TEMPERATURE AT SETPOINT.

DX COOLING COILS:
1. IN COOLING MODE, THE CONTROLS SHALL OPERATE THE DX COOLING STAGES IN SEQUENCE TO MAINTAIN SUPPLY AIR TEMPERATURE AT SETPOINT.

DEHUMIDIFY MODE:
1. FACTORY SUPPLIED CONTROLS SHALL MODULATE THE DX COOLING COIL IN COOLING MODE AND THE SCR HEATING IN HEATING MODE AND HOT GAS REHEAT TO MAINTAIN SUPPLY AIR TEMPERATURE AND HUMIDITY AT SETPOINT

SUPPLY FAN:
1. THE SUPPLY FAN SHALL RUN CONTINUOUSLY TO MAINTAIN SPACE PRESSURIZATION.

GENERAL EXHAUST FANS CONTROL SEQUENCE

EXHAUST FAN OPERATING CONTROLS SHALL INCLUDE
1. DISCONNECT SWITCH

WITH THE SAFETY CONTROLS IN THE NORMAL POSITION THE FAN MOTOR SHALL BE TURNED ON AND OFF BY THE DDC SYSTEM.

EXHAUST FAN SPEED CONTROL:
1. PROVIDE UNIT WITH FAN SPEED CONTROLLER SET TO SCHEDULED CFM

IT CLOSET UNIT CONTROL SEQUENCE

ALARM USER INTERFACE ANY TIME THE SPACE TEMPERATURE IS ABOVE 80°F (ADJUSTABLE) OR BELOW 60°F (ADJUSTABLE)..

CONTROLS INTEGRATION NOTES

A. PROVIDE CONTROL INTEGRATION INTO CAMPUS DDC SYSTEM. CAMPUS DDC SYSTEM UTILIZES TRIDIUM FRONT END INTERFACE. PROVIDE GRAPHICS ON THE FRONT END INTERFACING DEPICTING THE BUILDING FLOOR PLAN, IDENTIFYING UNIT LOCATIONS AND ZONES SERVED. SEE VRF CONTROL POINT INTEGRATION SCHEDULE FOR ALL REQUIRED POINTS. PROVIDE SEAMLESS INTEGRATION FOR CONTROL OF ALL READABLE AND WRITABLE POINTS LISTED IN THE SCHEDULE.

B. PROVIDE GRAPHICS FOR EACH FAN COIL UNIT, AIR HANDLING UNIT AND EXHAUST FAN WITHIN THE PROJECT SCOPE.

CONTROL LEGEND

	FAN	ASC	APPLICATION SPECIFIC CONTROLLER
D X	DX COIL	FS	COOLING COIL DRAIN PAN FLOAT SWITCH
H C	HEATING COIL	SCR	SILICON CONTROLLED RECTIFIER
H G	HOT GAS REHEAT COIL	AFMS	AIR FLOW MEASUREMENT STATION
	AIR FILTER	AI	ANALOG INPUT
	MOTOR STARTER	AO	ANALOG OUTPUT
VFD	VARIABLE FREQUENCY DRIVE	ATM	ATMOSPHERIC PRESSURE
DA	DAMPER ACTUATOR (ELECTRONIC)	DI	DIGITAL INPUT
DPS	DIFFERENTIAL AIR PRESSURE SWITCH	DO	DIGITAL OUTPUT
DPT	DIFFERENTIAL PRESSURE SENSOR	I	INPUT
AF	AFMS AIR FLOW MEASURING STATION	NC	NORMALLY CLOSED
T	DUCT MOUNTED, AVERAGING TEMP. SENSOR	NO	NORMALLY OPEN
T	SPACE TEMPERATURE SENSOR	O	OUTPUT
O	OCCUPANCY SENSOR	TSTAT	THERMOSTAT
H	HUMIDITY SENSOR		

CONTROL POINTS SCHEDULE

MARK ◇	TYPE	DESCRIPTION	NOTES
1	AI	OUTSIDE AIR TEMPERATURE	
2	DO	OUTSIDE AIR DAMPER OPEN/CLOSED	
3	DI	FILTER PRESSURE SWITCH	
4	DI	FLOAT SWITCH	
5	DO	ENABLE/DISABLE AHU CONTROLS	
6	AI	SUPPLY AIR TEMPERATURE	
7	AI	MAU SUPPLY AIR HUMIDITY	
8	AI	SUPPLY FAN CURRENT SENSOR	
9	DI	SUPPLY FAN ON/OFF	
10	DO	EXHAUST FAN ON/OFF	
11	AI	CURRENT SENSOR	
12	AI	IT CLOSET SPACE TEMPERATURE	

VRF CONTROL POINT INTEGRATION SCHEDULE

READ	WRITE	DESCRIPTION	NOTES
READ	WRITE	SPACE TEMPERATURE SETPOINT	1;
READ		SPACE TEMPERATURE	1;
READ	WRITE	ON/OFF	1;2;
READ	WRITE	FAN SPEED	1;
READ		ERROR CODE	1;
READ		ALARM	1;

NOTE:
1. TYPICAL OF ONE PER FCU.
2. TYPICAL OF ONE PER HEAT PUMP.

FINAL SUBMITTAL

Revisions: | Date

CONSULTANTS:

CLARK•NEXSEN
440 MARTIN LUTHER KING, JR. BLVD
MACON, GEORGIA 31201
478-743-8415 FAX 478-743-8239
WWW.CLARKNEXSEN.COM
CLARK NEXSEN LICENSE #C-1028

ARCHITECT/ENGINEERS:

TOLAND MIZELL MOLNAR
590 MEANS ST NW ATLANTA GA 30318

Drawing Title: CONTROLS

Approved: Project Director

Project Title: FAYETTEVILLE CLC PROJECT ONE

Location: FAYETTEVILLE, NC

Date: February 5, 2015 | Checked: WAW | Drawn: TAB

Project Number: 565-131

Building Number: .

Drawing Number: MI601

Dwg. of .

OFFICE OF CONSTRUCTION AND FACILITIES MANAGEMENT

Department of Veterans Affairs